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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/726,336	12/01/2003	David J. Zahniser	2024738-7030163001 (11.01	5486

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EXAMINER	
STOCK JR, GORDON J	

ART UNIT	PAPER NUMBER
2877	

DATE MAILED: 03/23/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/726,336	ZAHNISER ET AL.	
	Examiner	Art Unit	
	Gordon J. Stock	2877	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *12/1/05; 1/9/06*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *16-26,28-32 and 37-42* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *16-26,28-32,37 and 39-42* is/are rejected.

7)☒ Claim(s) *38* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *01 December 2003* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on December 1, 2005 and January 9, 2006 has been entered.

Claim Rejections - 35 USC § 103

2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

3. **Claims 16, 22, 25, 26, 28, 37, and 39 are** rejected under 35 U.S.C. 103(a) as being unpatentable over **Wunderman et al. (6,122,042)—previously cited** further in view of **Resnick et al. (4,207,554).**

As for **claims 16, 22, 25, 26, 28, and 37**, Wunderman in an optical identification device discloses the following: a light source having a first narrow band wavelength and a second narrow band wavelength, at least 15 LEDs of 15 different wavelengths (col. 9, lines 12-15); wherein, there maybe at least 15 arrays of at least two same wavelength LEDs (col. 14, lines 35-45); where these LEDs may be formed on a single substrate (Figs. 2b and 6a); with array of LEDs are formed on a first die, a substrate, and a second array of LEDs are formed on a second die, a substrate, with a common substrate from which they are attached and may be formed on a single die, a single substrate (Figs. 2b and 6a). Wunderman is silent concerning a lens disposed

between the light source and slide. However, he teaches the devices may be used in microscopes to study biological materials (col. 42, lines 20-30). And Resnick in a reflective type microscope system comprising a multiple wavelength light source teaches having a lens disposed between the light source and a slide as a support for the biological sample (Fig. 4: objective lens 11 and slide 30). Therefore, it would be obvious to one of ordinary skill in the art at the time the invention was made to have an objective lens disposed between the light and the sample to direct light to the sample and to receive light coming from the sample for imaging and to have a slide in order to provide support for a biological sample for microscopic investigation.

As for **claim 39**, Wunderman in view of Resnick discloses everything as above (see **claim 16**). In addition, Wunderman discloses a microchip module (Fig. 6a).

4. **Claims 17-21, 23, and 24 are** rejected under 35 U.S.C. 103(a) as being unpatentable over **Wunderman et al. (6,122,042)—previously cited** further in view of **Resnick et al. (4,207,554)** further in view of **Ishihara et al. (5,791,345)—previously cited.**

As for **claims 17-21, 23, 24,** Wunderman in view of Resnick discloses everything as above. Wunderman discloses multiple arrays of LEDs (col. 14, lines 35-45) that comprise 15 different wavelengths (col. 9, lines 12-15) that are in the wavelength range (col. 6, lines 24-25). Wunderman is silent concerning red LEDs, green LEDs, red and green LEDs arrays and wavelengths between 690 nm to 750 nm or 500 nm and 600 nm. However, Wunderman discloses using the system for biological investigation (col. 42, lines 20-30). And Ishihara in a non-invasive blood analyzer teaches using red LEDs, green LEDs, red and green LED arrays and wavelengths between 690 to 750 nm or 500nm and 600 nm (col. 5, lines 1-6; col. 18, lines 25-30) to analyze blood (col. 3, lines 55-60). Therefore, it would be obvious to one of ordinary skill

in the art at the time the invention was made to have the illumination system comprise red and green LEDs arrays with wavelengths between 690 to 750nm and 500nm and 600nm in order to investigate biological materials such as blood.

5. **Claims 29-32, and 42** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Ishihara et al. (5,791,345)—previously cited** in view of **Wunderman et al. (6,122,042)—previously cited** further in view of **Klinke et al. (5,404,282)** and **Bock et al. (H445).**

As for **claims 29-32,** Ishihara discloses the following: an array of green and an array of red LED's thereby having at least one red LED and at least one green LED, multiple green and multiple red LED's (col. 18, lines 25-30); and provides first and second LED on a common substrate (see Figs. 25-26) but fails to provide first and second die or a single die. However, Wunderman discloses a system for optically identifying characteristics that includes LED's attached to a die or multiple dies (Figs. 2b and 6a). Therefore, it would be obvious to one of ordinary skill in the art at the time the invention was made to mount the LED's on a first and second die or a single die to provide the LED with a power supply.

As for a plurality of lenses with a first lens provided over a first die and a second lens provided over a second die, Ishihara and Wunderman are silent. However, Klinke in a multiple light emitting diode module teaches that LED chips, 'dies,' are typically encapsulated by a lens (col. 5, lines 33-35) and Bock in a LED teaches encapsulating the LED chip, 'die,' with a lens (Fig. 2: 12 and 22). Therefore, it would be obvious to one of ordinary skill in the art at the time the invention was made to have each LED chip have a lens in order to protect it and in order to provide focusing of light generated.

As for the phrase, 'for use in an optical instrument lighting system for imaging a biological sample' in the preamble of **claim 29**, it has been held that a recitation with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from a prior art apparatus satisfying the claimed structural limitations. Ex Parte Masham, 2 USPQ F.2d 1647 (1987).

As for **claim 42**, Ishihara in view of Wunderman, Klinke, and Bock disclose everything as above (see **claim 29**). As for the first and second dies embedded in a potting material with the lenses attached to the potting material, Ishihara is silent. However, Klinke teaches potting LED chip components (col. 5, lines 30-35) and Bock teaches potting the lens as well as LED (col. 3, lines 53-58; col. 4, lines 1-15). Therefore, it would be obvious to one of ordinary skill in the art at the time the invention was made to have the lenses and LED dies attached and embedded in potting material in order to secure them to the substrate.

6. **Claims 40-41** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Wunderman et al. (6,122,042)—previously cited** further in view of **Resnick et al. (4,207,554)** further in view of **Ishihara et al. (5,791,345)—previously cited** further in view of **Klinke et al. (5,404,282)** and **Bock et al. (H445).**

As for **claim 40,** Wunderman in view of Resnick discloses everything as above (see **claim 39**). And Wunderman further discloses a substrate with array of LEDs attached via first and second dies (Figs. 2b and 6a). Wunderman is silent concerning red and green LEDs. However, he discloses using the system for biological investigation (col. 42, lines 20-30). And Ishihara teaches using red LEDs, green LEDs, red and green LED arrays and wavelengths between 690 to 750 nm or 500nm and 600 nm (col. 5, lines 1-6; col. 18, lines 25-30) to analyze

blood (col. 3, lines 55-60). Therefore, it would be obvious to one of ordinary skill in the art at the time the invention was made to have the illumination system comprise red and green LEDs arrays with wavelengths between 690 to 750nm and 500nm and 600nm in order to investigate biological materials such as blood.

As for a plurality of lenses, Wunderman in view of Ishihara is silent. However, However, Klinke in a multiple light emitting diode module teaches that LEDs are typically encapsulated by a lens (col. 5, lines 33-35) and Bock in a LED teaches encapsulating the LED with a lens (Fig. 2: 12 and 22). Therefore, it would be obvious to one of ordinary skill in the art at the time the invention was made to have each LED have a lens in order to protect it and in order to provide focusing of light generated.

As for **claim 41**, Wunderman in view of Ishihara and Klinke and Bock discloses everything as above (see **claim 40**). As for the LEDs embedded in a potting material with the lenses attached to the potting material, Wunderman in view of Ishihara is silent. However, Klinke teaches potting LED components (col. 5, lines 30-35) and Bock teaches potting the lens as well as LED (col. 3, lines 53-58; col. 4, lines 1-15). Therefore, it would be obvious to one of ordinary skill in the art at the time the invention was made to have the lenses and LEDs attached and embedded in potting material in order to secure them to the substrate.

Response to Arguments

7. Applicant's arguments with respect to the claims have been considered but are moot in view of the new ground(s) of rejection. However, Examiner will address some of the arguments in the Remarks section filed January 9, 2006. In regards to the argument that Wunderman does not deal with microscopes, Examiner disagrees. See Wunderman col. 42, lines 20-30. In regards

to the reflective nature of Wunderman, Examiner notes that microscopes have reflective configurations. See Resnick et al. (4,207,554). As for the arguments with claims 29-32 and 42, Examiner would like to note again that as for the phrase, 'for use in an optical instrument lighting system for imaging a biological sample' in the preamble of **claim 29**, it has been held that a recitation with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from a prior art apparatus satisfying the claimed structural limitations. Ex Parte Masham, 2 USPQ F.2d 1647 (1987).

Allowable Subject Matter

8. **Claim 38** is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

As to **claim 38**, the prior art of record, taken alone or in combination, fails to disclose or render obvious in an optical instrument lighting system the at least one lens comprises a Koehler illuminator, in combination with the rest of the limitations of **claim 38.**

Conclusion

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure: U.S. Patent 6,122,396 to King et al. (specifically, LED array of Fig. 1).

U.S. Patent 6,690,466 to Miller et al. (specifically, Fig. 4a: 1, 166, and 164).

Fax/Telephone Numbers

If the applicant wishes to send a fax dealing with either a proposed amendment or a discussion with a phone interview, then the fax should:

1) Contain either a statement "DRAFT" or "PROPOSED AMENDMENT" on the fax cover sheet; and

2) Should be unsigned by the attorney or agent.

This will ensure that it will not be entered into the case and will be forwarded to the examiner as quickly as possible.

Papers related to the application may be submitted to Group 2800 by Fax transmission. Papers should be faxed to Group 2800 via the PTO Fax machine located in Crystal Plaza 4. The form of such papers must conform to the notice published in the Official Gazette, 1096 OG 30 (November 15, 1989). The CP4 Fax Machine number is: **(571) 273-8300**

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Gordon J. Stock whose telephone number is (571) 272-2431. The examiner can normally be reached on Monday-Friday, 10:00 a.m. - 6:30 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gregory J. Toatley, Jr., can be reached at 571-272-2800 ext 77.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private Pair system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

gs
March 17, 2006

Gregory J. Toatley, Jr.
Supervisory Patent Examiner
Art Unit 2877
20/MAR/06